

WHAT IS CLAIMED IS:

1. A heat exchange system comprising:
  - a body having an outer surface in contact with a heat-exchange object;
  - a heat-exchange chamber in said body, a heat transfer medium flowing in said heat-exchange chamber;
  - an inlet formed on at least one end of said body with a diameter less than that of said heat-exchange chamber;
  - a main tube, the heat transfer medium flowing in or flowing out of said main tube, said main tube being insertably disposed in said heat-exchange chamber through said inlet and having a predetermined diameter so that a given space is ensured between said inlet and said main tube; and
  - branch tubes mounted on the outer surface of said main tube, each of said branch tubes having an opening on the top through which said main tube communicates with said heat-exchange chamber, said branch tubes being flexible, thereby being capable of passing through the space when said main tube is inserted or removed.
2. The heat exchange system according to Claim 1, wherein said branch tubes extend towards the surface of said heat-exchange chamber.

3. The heat exchange system according to Claim 1, wherein each of said branch tubes has a nozzle on the opening.

4. The heat exchange system according to Claim 1, wherein each of said branch tubes comprises a coiled spring whose turns are in close contact with each other in a free state.

5. The heat exchange system according to Claim 1, wherein each of said branch tubes comprises a tube having flexibility and leaktight to a fluid, and a coiled spring wound around the tube to support the tube.

6. A kneading or extruding rotor including the heat exchange system according to Claim 1, wherein said heat-exchange chamber has a non-circular cross-section and is twisted along the axis of said heat-exchange chamber.